



# **THIRD PARTY ACCESS TO EUROPEAN LNG REGASIFICATION TERMINALS**

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I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

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## **Abstract**

This dissertation was written as part of the MSc in Energy Law, Business, Regulation and Policy at the International Hellenic University.

Europe is facing increasing competition from rapidly growing economies around the world. As its domestic production declines and its dependency on non-EU gas imports increases, the EU has started seeking new sources of energy to diversify its energy mix. The current oversupply of LNG coupled with recent changes in the global LNG market which have moved the industry away from monopolistic structures towards competition and liquidity, made Europe to re-examine the opportunities LNG presents. The emergence of new LNG players trying to leverage the current market dynamics and optimize their portfolio, is creating demand for access to LNG import infrastructure. Under these circumstances, Europe has adopted certain strategies, so as to attract these new players to enter the European market. Within the framework of the liberalization of gas markets regulated TPA was implemented to LNG import terminals, which is an important policy tool to promote competition in the markets and facilitate the entrance of new suppliers. The EU wants to become a valuable outlet for LNG and it is in the position to achieve this, since the infrastructure is available, its regasification capacity is sufficient and its terminals are able to respond to prevailing global LNG market dynamics. However, the implementation of TPA to terminals comes along with challenges, such as infrastructural, operational and behavioural drawbacks that the EU has to overcome, in order to ultimately benefit from these new market trends.

Keywords: Liquefied Natural Gas (LNG), regasification terminals, market liberalization, Third Party Access (TPA), secondary markets

Eftychia Patanou

16.02.2018

## **Preface**

This dissertation is original, unpublished, independent work by the author, Eftychia Patanou.

At this point, I would like to thank my thesis advisor Professor Dr Theodoros Panagos of the School of Economics, Business Administration & Legal Studies at International Hellenic University. He guided me with his useful and valuable comments and advices wherever he thought I needed.

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## INTRODUCTION

The importance of Liquefied natural gas (LNG) in the global gas trade has grown considerably over the past decades. Changes in LNG industry facilitated by technology breakthroughs, global demand growth, liberalization policies and emergence of new players have totally restructured the way global LNG markets currently operate. These changes push towards more flexibility, liquidity and effective use of terminals' regasification capacity. Nevertheless, these new market dynamics that emerge from this transformation will remain useless, if regasification terminals which comprise the last part of the LNG value chain, remain inaccessible to existing and new players trying to enter the business. Europe has imposed a system of regulated third party access to LNG terminals, in order to facilitate the entrance of global players seeking to access liquid wholesale gas markets and optimize their LNG portfolio. Under these circumstances, the role of regasification terminals has changed. They have become more flexible and able to respond to prevailing global LNG market dynamics. However, access to regasification terminals is not always easy. Complex commercial arrangements, existing long-term capacity contracts, operational challenges and regulatory barriers need to be taken into account too. Europe wants to become a valuable outlet for LNG. Therefore, interest of LNG market participants in how TPA is implemented in practice to EU terminals, increases.

With regard to the structure of this dissertation, Chapter 1 gives an overview of the LNG value chain and explains why LNG is considered now a significant traded commodity. It also compares LNG with conventional pipeline gas and concludes that LNG is more preferable. Lastly, it analyses the evolution of LNG contracts and their pricing system. Subsequently, Chapter 2 deals with the evolution of European energy regulation. In the beginning, there is a briefly presentation of the structure of energy markets before liberalization was initiated by the EU and explains the reasons why it took so long for the EU to realize its importance. Moreover, the chapter outlines the main provisions of the 3 consecutive

legislative packages in relation to gas markets and assesses their effectiveness to liberalize the gas sector. Chapter 3 focuses on a specific liberalization policy tool - the third party access right. It explains its importance, especially for the gas sector which is a network-bound industry, the way it is implemented to receiving terminals and presents concerns arising from this implementation. Furthermore, the chapter gives further analysis of the exemption mechanism introduced by the EU to incentivise investments and raises the issue of the balance that should be achieved between granting exemptions and ensuring competition with the implementation of TPA. Finally, it highlights the importance of competition tools and especially the essential facilities doctrine, in order to ensure TPA and create a competitive market structure. Chapter 4 presents the growing importance of LNG for the EU and provides an overview of the current access regime applied to European regasification terminals. The chapter also analyses practical measures adopted by the EU legislation to implement effective TPA to regasification terminals and possible issues arising in the current market environment. Finally, chapter 5 includes conclusive remarks about the strategy EU has currently adopted to facilitate access to regasification terminals and proposes some measures, in order for the EU to achieve better results in relation to access issues and optimal utilization of the available regasification capacity.



## 1. THE IMPORTANCE OF LIQUEFIED-NATURAL GAS (LNG) IN THE GLOBAL GAS TRADE

### 1.1. WHAT IS LIQUEFIED NATURAL GAS (LNG)

#### 1.1.1. DEFINITIONS

Natural gas is a fossil fuel resource and is considered now as a favoured energy throughout the world, primarily because of its high efficiency, abundance, affordability and environmental benefits, compared to its main fuel competitors: oil and coal. The prospects for natural gas are so promising that the International Energy Agency (IEA) has suggested that the 21st century could be the "Golden Age of Gas."<sup>1</sup> Normally, there are two main options for the transportation of natural gas from producing regions to consumption regions: either through an extensive and elaborate pipeline network or in the form of liquefied natural gas (LNG), a cost-effective form of natural gas, transported by sea containers and tankers.

LNG is produced by removing impurities from natural gas, which is then cooled to approximately -162 °C (-260 °F) at atmospheric pressure until it liquefies, via a special cooling process (liquefaction). After the process is complete, the substance is compacted to where the liquid occupies only 1/600th of its gas volume. Thus, a greater volume of gas can be transported easier and more efficiently over long distances in liquefied form. Because LNG must be kept very cold in order to remain in a liquid state, storage in insulated tanks is necessary, both while awaiting shipment and while on board at specially built refrigerated ships.

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<sup>1</sup> INTERNATIONAL ENERGY AGENCY (IEA). (2011). *WORLD ENERGY OUTLOOK 2011: ARE WE ENTERING A GOLDEN AGE OF GAS?*. Paris, France: IEA, pp. 170-172. Retrieved from [http://www.worldenergyoutlook.org/media/weowebiste/2011/WEO2011\\_GoldenAgeofGasReport.pdf](http://www.worldenergyoutlook.org/media/weowebiste/2011/WEO2011_GoldenAgeofGasReport.pdf), accessed 15 November 2017.

### 1.1.2. LNG VALUE CHAIN

On reaching the destination point, the LNG will be unloaded from the vessels and then, after storage in insulated tanks, it will be regasified at the receiving terminal of the importing country by the buyer. Specially equipped regasifiers are used to convert the liquefied product into pipeline-quality natural gas. After regasification, the resulting gas is piped to power plants and other natural gas users. There is no difference between the possible usage of regasified natural gas and that of normal pipeline natural gas.<sup>2</sup>

As stated above, the global LNG business consists of four stages and has been described as a "value chain", which is relatively complex and links at least four major projects:

- 1) the upstream project for the exploration and production of gas;
- 2) the delivery of gas into a liquefaction plant, which represents the second infrastructure project and constitutes the largest component of the total cost of the LNG value chain. During liquefaction the natural gas that has already been cleaned and dried, is converted from gas to a liquid state;
- 3) the liquefied gas is thereafter transported via dedicated sea-going LNG vessels to markets around the world;
- 4) storage and regasification. Once an LNG vessel reaches its destination, it will berth and discharge LNG into a facility known as LNG receiving or regasification terminal. There, it is stored for a specific period of time in double-walled insulated tanks at atmospheric pressure<sup>3</sup> and depending on the demand for natural gas, LNG is regasified so as to become available for delivery by

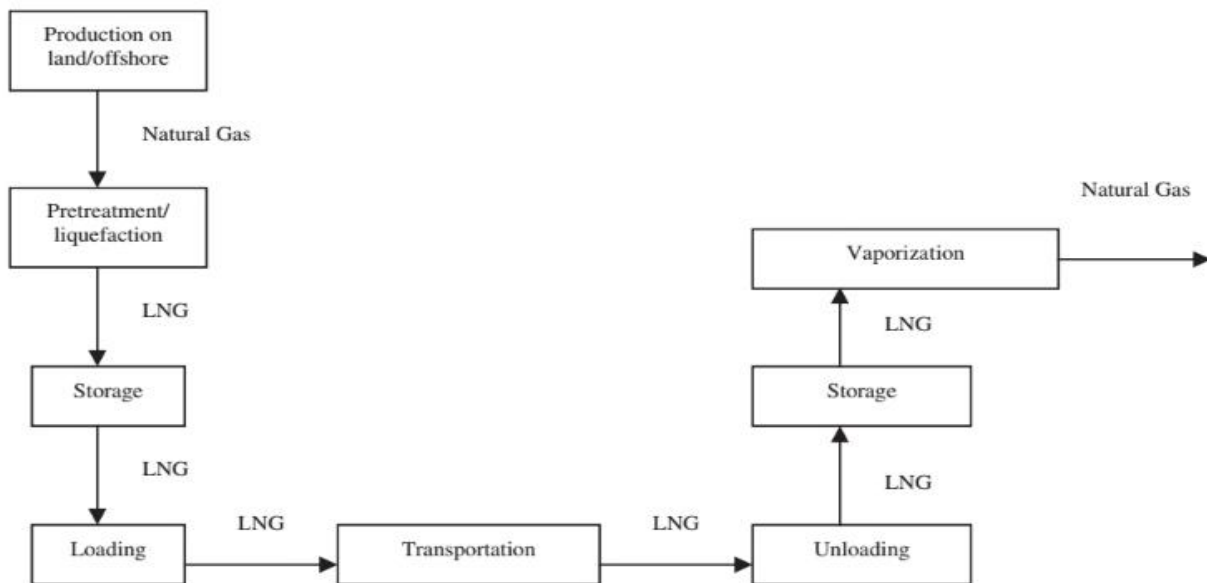
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<sup>2</sup> Weems, P. R. (2017). LNG Export Projects-a Historical View. *Oil, Gas & Energy Law Journal (OGEL)*, 15(4).

<sup>3</sup> LNG can only be stored for a limited period of time due to boil off, which is a process whereby the liquid returns to a gaseous state as its temperature rises. The boil off gas must be extracted from the storage tank.

pipeline to consumers. The receiving terminal constitutes the last infrastructure project of the LNG value chain.<sup>4</sup>

The simplified process that natural gas goes through so as to become LNG and to return to regasified natural gas, can be illustrated as follows:



**FIGURE 1: LNG VALUE CHAIN<sup>5</sup>**

## 1.2. DEVELOPMENT OF THE LNG INDUSTRY

International trade of natural gas has historically been linked with pipeline networks, since pipeline gas dominated the natural gas business for many decades. The need of transporting large amounts of natural gas reserves over

<sup>4</sup> Ambakederemo, T. (2010). LNG sale and purchase agreements: what is the effect of the emerging liquefied natural gas spot market on traditional long term liquefied natural gas sale and purchase agreements. *International Energy Law Review*, 5, pp. 155-162.

<sup>5</sup> Weems, P. R., & Hwang, M. (2013). Overview of issues common to structuring, negotiating and documenting LNG projects. *Journal of World Energy Law and Business*, 6(4), pp. 267-299.

long (often overseas) distances boosted the LNG business<sup>6</sup>. However, over the past few years interest in liquefied natural gas has increased considerably, which has led to a surge in global and regional LNG trade. LNG supplied about 10 per cent of world gas demand in 2010 and its relative importance is increasing, as it has surpassed pipeline gas in demand.<sup>7</sup> Additionally, between 2001-2014, the annual rise in LNG trade was about 9,5%, which is more than twice as much (4.5%) compared to the gas sent by pipeline networks.<sup>8</sup> As LNG now can be reliably transported worldwide, it is considered as a significant traded commodity, capable of meeting the growth in demand for natural gas.<sup>9</sup> Its increase in significance is mainly due to concerns of policy makers about issues related to energy security, global climate change, higher natural gas and oil prices as well as increase in demand for clean and flexible energy supplies.

### 1.2.1. LNG vs PIPELINE GAS

LNG plays an important role in the integration of the natural gas markets, since it enables the trade between historically distinct regions and the delivery of gas to several points. Therefore, it is generally accepted that LNG plays the role of the “glue” which links global gas markets.<sup>10</sup> Moreover, its flexibility offers a competitive advantage over conventional pipeline gas, since LNG can be shipped to markets far away from the location of natural gas deposits which are usually not located near potential customers. The transportation of gas via pipelines is rigid, as it provides limited delivery points, discouraging those selling the commodity to redirect it to markets where its price is higher. On the contrary,

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<sup>6</sup> Ibid as ref. 4

<sup>7</sup> Kumar, S., Kwon, H. T., Choi, K. H., Cho, J. H., Lim, W., & Moon, I. (2011). Current status and future projections of LNG demand and supplies: A global prospective. *Energy Policy*, 39(7), pp. 4097-4104.

<sup>8</sup> Metelska, K., Biały, R., Cieślík, T., Blacharski, T., & Szurlej, A. (2016). The importance of LNG for natural gas consumption in the EU. *E3S Web Of Conferences*, 10, p. 00132.

<sup>9</sup> Wood, D. A. (2012). A review and outlook for the global LNG trade. *Journal of Natural gas science and Engineering*, 9, pp. 16-27.

<sup>10</sup> Sakmar, S. L. (2013). Global Gas Markets: The Role of LNG in the Golden Age of Gas and the Globalization of LNG Trade. *Houston Journal of International Law*, 35(3), pp. 655-696.

LNG sellers can determine where and to whom the LNG will be sold, since like oil it can be dispatched to any destination via sea-going vessels.

Another advantage of LNG over natural gas is that it can be transported more easily, since it occupies less space and the transportation cost becomes cheaper as the distance between the gas field and the potential market increases. LNG trade around the world has the advantage of there being no statistical relationship between the price and the distance for its transportation, while the exact opposite stands for CNG trade.<sup>11</sup> Specifically, it has been argued that LNG is the best option for markets located more than 4000 kilometres away from the gas field. However, this number is optional, since the most suitable transportation option depends on other parameters as well, such as the volume and the quantity of natural gas transported.<sup>12</sup> Lastly, LNG regasification terminals allow receiving LNG from diverse suppliers, avoiding dependence on a single supplier through pipelines<sup>13</sup> as well as dependence on transit countries and the associated legal and political risks.<sup>14</sup>

### 1.2.2. LNG EXPORTS-IMPORTS

Apart from the aforementioned factors, since 2010 some fundamental changes in the worldwide energy industry also contributed to the significant evolution of the LNG market. Technical advancements concerning manufacturing, treating processes, liquefaction, and transportation of LNG as well as economies of scale have made LNG cost-effective compared to the past. Furthermore, the shale revolution, as a consequence of the innovation of shale technology which reduced the costs of horizontal drilling and hydraulic fracturing, have resulted in a plethora

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<sup>11</sup> Osorio-Tejada, J., Llera-Sastresa, E., & Scarpellini, S. (2017). Liquefied natural gas: Could it be a reliable option for road freight transport in the EU?. *Renewable And Sustainable Energy Reviews*, 71, pp. 785-795.

<sup>12</sup> Ulvestad, M., & Overland, I. (2012). Natural gas and CO2 price variation: impact on the relative cost-efficiency of LNG and pipelines. *International Journal of Environmental Studies*, 69(3), pp. 407-426.

<sup>13</sup> Ibid as ref. 11

<sup>14</sup> Russia-Ukraine gas dispute.

of LNG export projects proposed in Australia and North America. These projects will change dramatically the global energy and supply environment.

On the import side, global LNG demand is expected to increase substantially especially in Asia and Europe. China and India, which are set to continue driving a rise in demand, were two of the fastest-growing buyers in 2016, increasing their imports by a combined 11.9 million tonnes of LNG, while countries such as Malaysia and Indonesia which are among the major LNG exporters worldwide will turn into LNG importing countries by 2035.<sup>15</sup> Moreover, after the nuclear damage at the Fukushima Daiichi reactors in March 2011, countries changed their nuclear policies and started seeking for alternative sources of energy especially for flexible LNG supplies. In Europe, the role of LNG has been reassessed and the use of LNG is considered to play a key role for diversification of the EU's supplies. Specifically, the Union published in February 2016 the EU strategy for liquefied natural gas and gas storage, one of several measures under the Energy Union package, proposing better cooperation with international partners and further efforts towards the utilization of LNG<sup>16</sup>. The EU has recognised the growing role of LNG for the completion of a secure, well- functioning, internal gas market which will benefit both individual market players and EU citizens.

Compared to more established areas of the energy sector, the LNG industry is relatively new. However, it is developing at a rapid rate and is expected to increase further over time, since it is adapting to a number of factors that have fundamentally shifted the supply and demand balance for LNG.

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<sup>15</sup> Shell. (2017). *SHELL LNG OUTLOOK 2017*, pp. 3,4. Retrieved from [http://www.shell.com/energy-and-innovation/natural-gas/liquefied-natural-gas-lng/lng-outlook/\\_jcr\\_content/par/textimage\\_1374226056.stream/1488553856456/88c077c844a609e05eae56198aa1f92d35b6a33cc624cf8e4650a0a6b93c9dfb/shell-lng-outlook-2017-overview.pdf](http://www.shell.com/energy-and-innovation/natural-gas/liquefied-natural-gas-lng/lng-outlook/_jcr_content/par/textimage_1374226056.stream/1488553856456/88c077c844a609e05eae56198aa1f92d35b6a33cc624cf8e4650a0a6b93c9dfb/shell-lng-outlook-2017-overview.pdf)

<sup>16</sup> European Commission. (2016). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on an EU strategy for liquefied natural gas and gas storage*. Brussels, Belgium: COM(2016) 49 final.

### 1.3. THE STRUCTURE OF LNG CONTRACTS AND THEIR PRICING SYSTEM

On September 26, 1964, the world's first LNG cargo sold under a long-term contract was loaded at the Camel plant in Algeria and was unloaded on October 12, 1964, at Canvey Island<sup>17</sup>. Since then LNG trade has been expanding remarkably, causing drastic changes to the global LNG market structure. Historically, the LNG trade has been based on long-term contracts with duration being 20-30 years. In addition to most LNG trade occurring regionally, there were very few cargoes committed under shorter contracts or on the spot market and cargo diversions from the originally intended destinations were limited.

#### 1.3.1. ADVANTAGES OF LONG-TERM SPA

Each contract has two sides, a producer (seller) and a buyer (wholesaler). The use of long-term sale and purchase agreements (SPAs) were the usual contractual arrangement for LNG projects, since they are capital-intensive and have a complex nature. Specifically, the philosophy underlying the use of these contracts is that both the gas producer and the gas buyer profit from these long-term contractual agreements. Moreover, the producer can trust on guaranteed payments for a period long enough to cover (a considerable amount of) the costs incurred from the investment in exploration, production, long-distance transportation, and liquefied natural gas (LNG) liquefaction terminals<sup>18</sup> and therefore they provide for a security of demand for gas exporters. These contracts can also assure long-term security of supply to the buyer, enabling him to adopt certain strategies in downstream markets in the medium and long-term and make profitable investment decisions based on predictable transportation needs.<sup>19</sup>

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<sup>17</sup> Ibid as ref. 2

<sup>18</sup> Herweg, N. (2017). *European Union policy-making: The Regulatory Shift in Natural Gas Market Policy*. Cham, Switzerland: Springer.

<sup>19</sup> Talus, K. (2011). Long-term natural gas contracts and antitrust law in the European Union and the United States. *Journal of World Energy Law and Business*, 4(3), pp. 260-315i.

### 1.3.2. DISADVANTAGES OF LONG-TERM SPA

Nevertheless, long-term contracts are usually rigid and they do not take into account possible changes in the market or other circumstances, as their main objective when drafted is to enforce the terms of the contract.<sup>20</sup> They typically contain a destination clause, preventing buyers from re-selling imported gas to third parties, they are also structured on a take-or-pay basis for specified volumes and their pricing linked to crude oil or a basket of crude oil and refined products is frequently adopted. The imposition of these contractual terms inhibit the ability of LNG to be traded freely and do not allow the global LNG business to grow as it really should.

In more detail, destination clauses which prohibit the buyer of natural gas to resell it in other areas than initially contracted for, give LNG sellers the option to charge different clients different prices for the same product at the same delivery point<sup>21</sup>. Moreover, a take-or-pay clause obliges the buyer to pay for a contractually agreed amount of LNG, usually more than 80 percent of the annual contracted quantity, whether or not this amount is taken, in prices that are defined in advance<sup>22</sup>. Regarding their pricing system, LNG has traditionally been priced as natural gas via pipeline, linked to oil prices. The practice of tying the gas price to the movements of oil prices was developed at a time when there was no independent and transparent gas price in the relevant markets. Gas was seen as a substitute for other types of fuels and there was practically no gas-to-gas competition.<sup>23</sup> This linkage was used because the world oil market is highly liquid and transparent, so price volatility and conspiracy in regions with few LNG suppliers would be avoided.

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<sup>20</sup> Ibid as ref. 4

<sup>21</sup> Ibid as ref. 19

<sup>22</sup> Ibid as ref. 18

<sup>23</sup> Talus, K. (Ed.). (2014). *Research handbook on international energy law*. Edward Elgar Publishing.



### 1.3.3. EMERGENCE OF NEW TYPES OF CONTRACTS

Nevertheless, since the mid 1990s changes are under way in world natural gas markets, creating new forms of contracts with more flexible terms, which properly reflect the LNG trade today. With the dramatic increase in cargoes, trading routes and market participants in combination with changes in the institutional framework, which have moved the industry away from monopolistic structures towards competition, LNG markets have seen the emergence of a growing spot and short-term LNG trade. These types of contracts allow divertible or uncommitted LNG to go to the highest value market in response to changing market conditions<sup>24</sup> and provide for flexibility and optimization of the purchasing portfolio of LNG importers while securing resiliency and better market utilization.

Over-the-counter spot sales in the LNG sector consist of two groups: genuine single cargo spot sales and short-term sales<sup>25</sup>. In short-term sales, there is a series of LNG cargo sales based on short-term contracts, usually with the duration of less than 4 years.<sup>26,27</sup> A spot trade implies that a single or several LNG cargoes are produced by the LNG plant but is (are) not committed to any specific market by the project. In such a case, there will be several markets willing and ready to pay different prices for the cargoes<sup>28</sup>. Generally, these new types of contracts look like long-term sale and purchase agreement (SPAs) when drafted, except that they contain more flexible terms. The main difference between them is that they do not contain take or pay provisions, their pricing structure is negotiable and

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<sup>24</sup> Sakmar, S. L. (2013). *Energy for the 21st century: Opportunities and challenges for liquefied natural gas (LNG)*. Edward Elgar Publishing.

<sup>25</sup> There is no universally accepted definition of 'short term' in the LNG business. The short-term LNG market is generally considered the market where sales are governed by agreements with a duration of less than 4 years. The LNG industry sometimes uses 'short term' and 'spot' interchangeably which challenges the ordinary meaning of the term 'spot'.

<sup>26</sup> Nikhalat-Jahromi, H., Angeloudis, P., Bell, M. G., & Cochrane, R. A. (2017). Global LNG trade: A comprehensive up to date analysis. *Maritime Economics & Logistics*, 19(1), pp. 160-181.

<sup>27</sup> According to the International Gas Union (IGU) short-term trade is defined as all volumes traded under agreements of less than two years and contracts with duration between two to less than five years are called medium-term contracts, see also: International Gas Union (IGU) (2017). *2017 World LNG Report*.

<sup>28</sup> Ibid as ref. 4

destination clauses are either eliminated or have become more flexible, allowing the expansion of arbitrage trades<sup>29</sup> of LNG.

Recent forms of long-term contracts aim to make available a base supply of LNG, while spot contracts are just playing a supplementary role, for example in periods of high demand or in the event of a supply disruption. However, more and more buyers and sellers are entering into spot arrangements globally, since spot trade is valuable to both contracting parties. On the one hand, the seller can trade off excess capacity and on the other hand the buyer can procure LNG with more flexibility.<sup>30</sup> The spot contracts are able to balance flexibility with certainty, since they provide more trading opportunities, enhance competition, make LNG trade more liquid, dynamic and multi-directional, while trying to create a global LNG market, where the price of LNG is driven by the fundamentals of supply and demand with the use of trading hubs. In 2000 short-term and spot trade in LNG accounted for less than 5% of the natural gas traded worldwide. However, it grew from 2.5 billion cubic feet per day (Bcf/d) in 2005 to 9.3 Bcf/d in 2014, and its share of total LNG trade increased from 13% to 29%.<sup>31</sup> In 2016, the non long-term LNG trade reached 72.3 MT (about 10,6 Bcf/d) and accounted for 28% of the total LNG trade.<sup>32</sup>

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<sup>29</sup> LNG arbitrage can be defined as a physical cargo diversion from one market to another which offers a higher price. The diversion of the cargo can be regarded as arbitrage if the cargo was initially committed to the first market and to the initial buyer in a commercial contract, see also: Zhuravleva, P. (2009). The Nature of LNG Arbitrage: an Analysis of the Main Barriers to the Growth of the Global LNG Arbitrage Market. *Oxford Institute For Energy Studies, NG-31*, pp. 2-3.

<sup>30</sup> Ibid as ref. 4

<sup>31</sup> Energy Information Administration (EIA) (2016). International energy outlook 2016 with projections to 2040. *Washington, US*.

<sup>32</sup> International Gas Union (IGU) (2017). *2017 World LNG Report*.

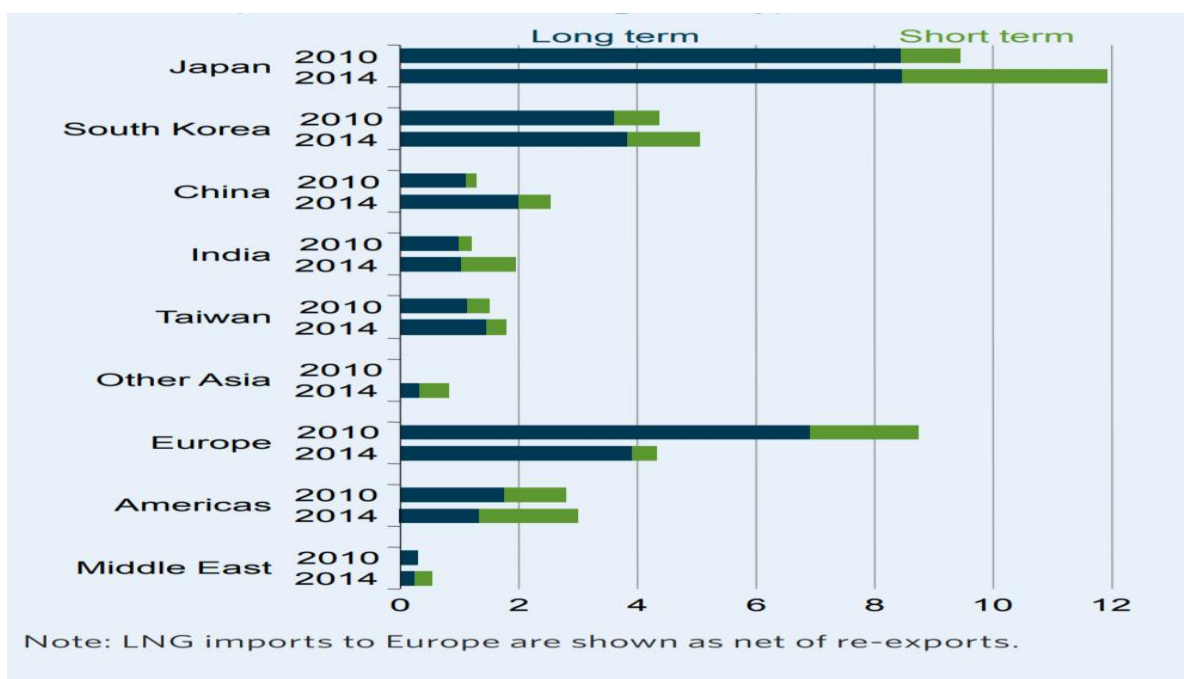


FIGURE 2: GLOBAL LNG TRADE BY CONTRACT TYPE, 2010 AND 2014 (billion cubic feet per day)<sup>33</sup>

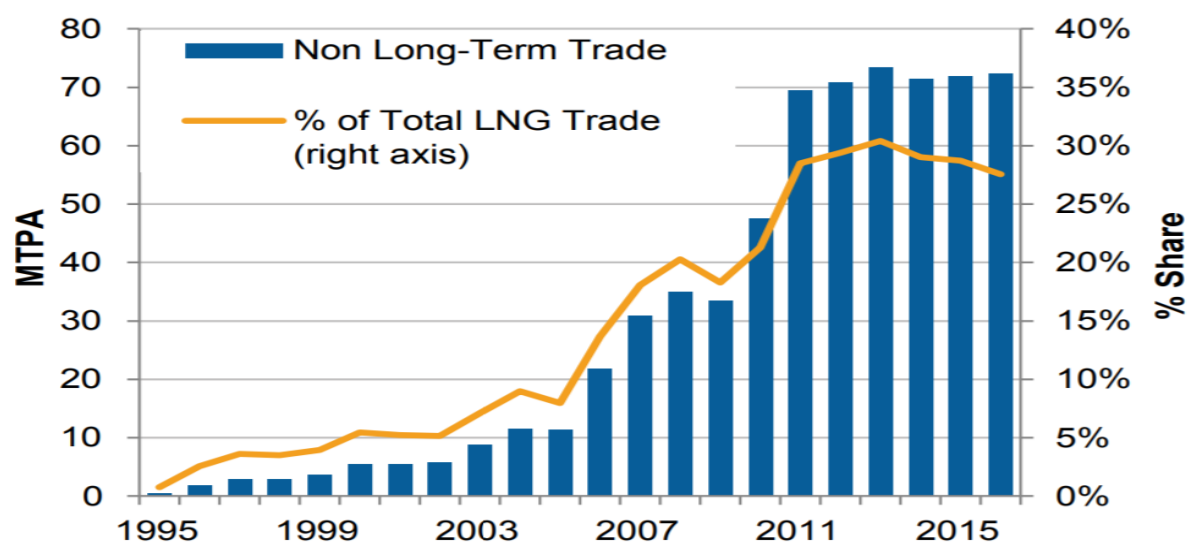


FIGURE 3: NON LONG-TERM VOLUMES, 1995-2016<sup>34</sup>

<sup>33</sup> Ibid as ref. 31

<sup>34</sup> Ibid as ref. 32

#### 1.3.4. LNG PRICING SYSTEM

Regarding the pricing system of LNG, it has traditionally been linked to oil prices under long-term contracts, as noted earlier. However, this system is currently heavily debated, since it does not allow transparent gas price indexes to emerge which properly reflect the actual supply and demand for LNG itself. For this reason, in recent years, with the expansion of spot transactions the fuel is traded at several hubs around the world. Currently, there is not a single pricing structure for LNG and its pricing mechanism differs between markets depending on their respective features and conditions.

Specifically, international gas markets are divided into 3 major regions. The European and North American market (the market around Canada and the U.S), both of which are based upon imports and domestic production and the Asian market (Northeast Asia, China and India) which depends on LNG imports to a great extent, since it does not have large (or even no) indigenous supplies and limited pipeline interconnections. In North America, natural gas price is linked to gas market indicators such as the Henry Hub in Louisiana (US), while in Europe there are two pricing types for natural gas, the price traded at hubs for example the National Balancing Point (NBB) in the United Kingdom and the Title Transfer Facility (TTF) in Netherlands and the pricing linked to oil or oil products. In other words, in Europe there are now two gas prices that compete each other. The lower gas-hub short-term prices since 2008, have caused many European gas utilities to try and renegotiate the price indexation of their long-term gas contracts, particularly with Gazprom of Russia. As a consequence, this move increased the competitiveness of short-term LNG across the continent.<sup>35</sup>

In Asia, LNG contracts are linked to the crude oil price index. However, due to constant demand growth for LNG in the Asian market and high oil prices, natural gas is more expensive in Asia than in the USA or Europe, fact that created intense

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<sup>35</sup> Wood, D. A. (2012). A review and outlook for the global LNG trade. *Journal of Natural gas science and Engineering*, 9, pp. 16-27.

debate about the current pricing system. Under these circumstances, the establishment of trading hubs which will enable purchasers to trade LNG at reasonable prices that reflect the actual supply and demand of LNG is crucial, in order to expand spot transactions and by extension competition in Asian markets.

The integration of the North American, European and Asian markets to create a global LNG market is unlikely to be achieved without the establishment of a uniform international pricing structure for LNG. However, structural and regulatory reforms in the industry are already underway which will endeavour to create greater competition, freer and more transparent trading and better market environment in which LNG prices will be stabilized and will reflect the actual supply and demand for the fuel.

## **2. LIBERALIZATION OF EUROPEAN GAS MARKETS-THEORETICAL BACKGROUND**

### **2.1. THE PRE-LIBERALIZATION PHASE-TOWARDS EU MARKET REFORM**

The creation of a single market as a barrier-free zone for business and consumers across Europe is one of the European Union's main goals. Despite all achievements of recent decades, the process of establishing a single market has not yet been accomplished. This is especially true for the internal energy market.<sup>36</sup> Especially, given the vital role energy plays in the modern globalizing and competitive world, it is quite surprising that it took so long for the European Union to focus on creating a well-functioning, competitive internal energy market in order to complete an important part of the EU single market.

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<sup>36</sup> Krüger, H. (2016). *European Energy Law and Policy: An Introduction*. Edward Elgar Publishing.

### 2.1.1. REASONS IMPEDING FOCUS ON ENERGY MARKET LIBERALIZATION IN THE EU

Specifically, regarding the gas sector, the process of liberalizing the EU gas market has been extremely slow and can be traced back to the mid-1980s. This happened mostly due to the fact that neither the EEC Treaty (1957) which was created to establish a common market for goods, services and labour among member states, nor the Maastricht Treaty (1992) which founded the European Union provided the Community with an all-encompassing competency in the field of energy. Many different considerations played their part in keeping energy issues off the general EC agenda. Until 1990 the European Commission (EC) was concerned mainly on issues regarding security of supply, not competition and the gas market liberalization was not significant subject for the EC to deal with. A perceived scarcity of supply resulted from the belief that finite resources would soon be depleted in combination with international focusing events such as the closure of the Suez Canal in 1956 and 1967, the oil crises caused by the Arab oil embargo in 1973, the Iranian Revolution in 1979 and the skyrocketing of crude oil prices during the 1970s, led member states to treat energy as a strategic commodity, which had to be dealt with at a national level.<sup>37</sup> Since energy was considered a highly sensitive subject for the EU, each member state government was trying to retain tight control over the sector, maintaining at the same time its own distinct approach to meeting its energy needs according to its individual wishes.

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<sup>37</sup> Ibid as ref. 18

### 2.1.2 STRUCTURE OF ENERGY MARKETS BEFORE LIBERALIZATION

Furthermore, throughout the 1980s and 1990s the European electricity and gas supply industries were dominated by national monopolies. The status of monopoly in the energy market was deployed by companies owned by public stakeholders which wielded a significant amount of power and could favour their own corporate divisions, since they had the means to block new entrants. However, this monopolistic structure in the downstream market<sup>38</sup> was considered necessary given the substantial cost required to build and maintain the network infrastructure. On top of that, these monopolies were vertically integrated undertakings (VIU) which meant that they were responsible for the extraction or generation, supply, transmission and distribution of the energy. As the services provided by these vertically integrated companies were seen as essential for the community, governments have used to impose public service obligations (PSO) on them, such as the obligation to supply or to base prices on the incurred costs and leave them under governmental control in an effort to control them and protect the consumers<sup>39</sup>.

These energy firms could discriminate against potential entrants and by extension hinder competition<sup>40</sup> and since they controlled every part of the electricity and gas value chain, they could even dictate prices at their sole discretion. This also led to inefficiency in services and under-investment in energy infrastructure.<sup>41</sup> Therefore, these malfunctions in energy sector forced the EU to

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<sup>38</sup> In general, the natural gas market can be subdivided into an upstream market and a downstream market. The upstream market encompasses those activities related to natural gas which involve exploration, development, production, gathering and purification as well as sales to wholesalers. The downstream market refers to the transmission, distribution and storage of natural gas, see also: ref 18.

<sup>39</sup> Ibid as ref. 18

<sup>40</sup> Nowak, B. (2010). Equal access to the energy infrastructure as a precondition to promote competition in the energy market. The case of European Union. *Energy Policy*, 38(7), pp. 3691-3700.

<sup>41</sup> The construction and maintenance of energy infrastructure (pipelines, storage facilities, LNG terminals) is capital-intensive. Due to the required high investments, a subadditive cost function is given, which means that once the infrastructure is built, additional customers can be served at low marginal costs. Hence, their construction and operation is left to the natural monopolies, which have an incentive to use their dominant positions to deny access to the infrastructure of potential competitors and by extension to slow down market opening for new players. Not surprisingly, the prevailing market situation in the European member states prior to the

start a gradual but significant reform process towards the abolition of this monopolistic structure and the development of a liberalization regime which would promote a more efficient energy sector with more consumer choice of energy products and services and lower electricity and gas prices.

The previous picture in the energy sector started to change in the late 1980s when calls for privatization and deregulation became commonplace particularly in the UK and US. The successful energy market liberalization experienced by these countries encouraged many European leaders to begin gradually opening up national markets to competition. A state-controlled sector started slowly to change into something more market- oriented. The idea was that, as a result of such competition, the markets would become more efficient and consumers would benefit both from lower prices and from the freedom to choose from a wider range of suppliers. Additionally, investment in energy infrastructures would be conducted on a market- oriented basis and at the lowest possible cost. Governments could step aside and limit their role, in order to ensure the proper functioning of the market<sup>42</sup>.

### 2.1.3. FIRST STEPS TOWARDS AN INTERNAL ENERGY MARKET

In 1988, the Commission published the white paper entitled "The Internal Energy Market" with the aim of EU member states to establish a single market by 1992. From that point on, liberalization of gas and electricity markets has occupied an important place by the Commission agenda<sup>43</sup>. Afterwards, a directive introducing a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users was adopted to help determine the price differences between member states and hence the level of market integration in

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liberalization process has been coined by monopolies in the downstream market, see also: ref 18 and ref 40.

<sup>42</sup> Talus, K. (2016). *Introduction to EU energy law*. Oxford, United Kingdom: Oxford University Press.

<sup>43</sup> Cerovic, L., Donadić, M., & Galović, T. (2009). *Liberalization of EU Gas Sector: Impacts and Perspectives of Future Development*.



the gas and electricity sectors<sup>44</sup>. In 1990 and 1991 directives on electricity and gas transit were also adopted to provide a framework for the exchange of electricity and gas between incumbent operators to strengthen security of supply and reduce costs<sup>45</sup>. The Price Transparency Directive and the Electricity and Gas Transit Directive can be regarded as the first, preliminary steps to the opening-up of the European energy markets to competition<sup>46</sup>. However, although this set of legislation had little real effect, they set the wheels in motion for the adoption by the EU of the first Electricity Directive in 1996<sup>47</sup>, followed by the first Gas Directive in 1998<sup>48</sup> that put the internal European energy market on the path to change.

## 2.2. THE FIRST GAS DIRECTIVE

Within the first energy liberalization package, the so called first Electricity Directive was adopted in December 1996 and had to be transposed by February 1999. This electricity directive paved the way for the first gas directive which was adopted in June 1998 and had to be transported by August 2000. The essence of both the electricity and gas market directives is the introduction of freedom of choice to engage in the business of energy trade, the choice to build power plants and pipelines, to export and import and the choice to select and negotiate with suppliers, shippers, and customers<sup>49</sup>. The directives also aimed to move from a system of vertically integrated companies, often with legal supply monopolies, to a system that distinguished between areas where competition was possible and

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<sup>44</sup> Council Directive No. 90/377, O.J. L 185/16, at 16-17 (1990) (concerning a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users).

<sup>45</sup> Council Directive No. 90/547, O.J. L 313/30, at 30 (1990) (on the transit of electricity through transmission grids); Council Directive No. 91/296, O.J. L 147/37, at 37-38 (1991) (on the transit of natural gas through grids).

<sup>46</sup> Kavoussi, F. (2001). *Liberalization of European Gas Market. SPE Annual Technical Conference and Exhibition*. Society of Petroleum Engineers.

<sup>47</sup> Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity, Official Journal, L 27, 30.01.1997.

<sup>48</sup> Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas, Official Journal L 204, 21.07.1998.

<sup>49</sup> Talus, K. (2013). *EU energy law and policy: a critical account*. Oxford, United Kingdom: Oxford University Press.

areas of natural monopoly to which other undertakings would have access at a reasonable cost<sup>50</sup>.

Specifically, the EU Gas Directive sets the platform for the creation of a full competitive European gas market through common rules for transmission, distribution, supply and storage, based on high standards of security of supply and consumer protection. The cornerstones of the first Gas Directive are set by market opening and initial steps towards changing the industry structure and network access conditions by introducing accounting unbundling and negotiated and regulated third party access.<sup>51</sup> In more detail, to achieve a gradual and incremental market opening, the EU chose the definition of eligible customer as the key variable to facilitate legal market opening. As key element of the gas market liberalization was the eligible customers' freedom to choose gas suppliers. The Gas Directive allowed member states to attain this goal through a gradual market opening consisting of three main phases.<sup>52</sup>

### 2.2.1. INTRODUCTION OF TPA

Regarding the introduction of third party access (TPA), two types of access to infrastructure can be chosen: regulated or negotiated. Negotiated access refers to access on the basis of voluntary commercial agreements negotiated in good faith between network operators and users<sup>53</sup>. The network operator is required to publish the main commercial conditions for the use of its network or facility on an ex-ante basis. The commercial conditions may include for example the contractual terms, the product offered, the rules and technical requirements as well as

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<sup>50</sup> Kroes, N. (2007). Improving competition in European Energy markets through effective unbundling. *Fordham Int'l LJ*, 31, pp. 1387-1441.

<sup>51</sup> Haase, N. (2008). *European gas market liberalisation: are regulatory regimes moving towards convergence?*. Oxford Institute for Energy Studies.

<sup>52</sup> see also Article 18 of the first Gas Directive 98/30/EC.

<sup>53</sup> see also Article 15 of the First Gas Directive 98/30/EC.

examples of prices.<sup>54</sup> By contrast, regulated third party access is based on published and common tariffs<sup>55</sup> that offer more transparency and non-discriminatory network access to new entrants. Independent from the member states' preference with regard to negotiated or regulated third party access, the organisation of the network access shall be "in accordance with objective, transparent and non-discriminatory criteria"<sup>56</sup> Moreover, the first Directive foresees for both nTPA and rTPA the possibility of temporary derogations, "if a natural gas undertaking encounters, or considers it would encounter, serious economic and financial difficulties because of its Take-or-Pay commitments accepted in one or more gas purchase contracts".<sup>57</sup> In addition, Article 17 of the Directive 98/30/EC explicitly allows the refusal of network access in the case of capacity congestion caused by pre-liberalisation Take-or-Pay contract obligations.

### 2.2.2. UNBUNDLING OF ACCOUNTS

Lastly, The first Gas Directive requires the publication of accounts of integrated gas undertakings which shall also keep separate accounts in their internal accounting for their natural gas transmission, distribution and storage activities as they would be required to do if the activities were carried out by separate undertakings.<sup>58</sup> The aim of this requirement is to ensure non-discrimination and fair tariffs to avoid cross-subsidisation and the distortion of competition.<sup>59</sup>

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<sup>54</sup> Corbeau, A. S., Volk, D., Sinton, J., Jiang, J., Ping, J., Teng, T., ... & Fen, Y. (2012). *Gas Pricing and Regulation. China's Challenges and IEA Experience*. Paris, France: International Energy Agency.

<sup>55</sup> see also Article 16 of the first Gas Directive 98/30/EC.

<sup>56</sup> see also Article 14 of the first Gas Directive 98/30/EC.

<sup>57</sup> see also Article 25 of the first Gas Directive 98/30/EC.

<sup>58</sup> see also Article 13 of the first Gas Directive 98/30/EC.

<sup>59</sup> Cameron, P. (2002). *Competition in Energy Markets. Law and Regulation in the European Union*. Oxford, United Kingdom: Oxford University Press.

### 2.2.3. SHORTCOMINGS OF THE FIRST GAS DIRECTIVE

However, in the years immediately following the implementation of the directive, it became clear that the requirements were not sufficient and did not cause significant changes in the EU gas market. Firstly, the legislation prescribed only incremental and moderate market opening, by setting minimum thresholds that allowed different degrees of liberalisation to coexist. Furthermore, it left member states a large margin of discretion regarding crucial regulatory issues such as the degree of required unbundling of monopoly activities in vertically integrated undertakings. The result was a European patchwork of asymmetric national rules.<sup>60</sup> The Commission also carried out a number of benchmarking exercises, which demonstrated clearly that in member states where limited unbundling took place, competition was severely restricted and discrimination was common.<sup>61</sup> Member states were still discriminating against third-party market players and catering to the state-run conglomerates. The first Gas Directive simply had not been forceful enough or suggested enough change to precipitate any real change in the market.<sup>62</sup> For this reason, a second liberalization package was adopted as a remedy, in order to speed up the liberalization process that would create a fully functional and competitive electricity and gas market.

### 2.3. THE SECOND GAS DIRECTIVE

In order to tackle the aforementioned difficulties surrounding the first Gas Directive, the Community legislator adopted the second energy liberalization package.<sup>63</sup> The main aim was to strengthen the unbundling requirements of

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<sup>60</sup> Eberlein, B. (2008). The making of the European energy market: The interplay of governance and government. *Journal of Public Policy*, 28(1), pp. 73-92.

<sup>61</sup> Ibid as ref. 50

<sup>62</sup> Duncan, C. A. (2015). Lessons from the United States and Texas: Market Liberalization of the Natural Gas and Electricity Markets in Europe. *Texas Journal of Oil, Gas and Energy Law*, 10(2), pp. 328-384.

<sup>63</sup> The second energy package included Directive 2003/ 55/ EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/ 30/ EC, Official Journal, L 176, 15.7.2003; Directive 2003/ 54/ EC of the European

network operators, to improve third party access rights, to open electricity and gas markets even further by removing the remaining exclusive supply rights and to establish independent authorities for the regulation of the natural gas market. More specifically, under the second Gas Directive the central position of third party access was enhanced and its requirements became stricter. In effect, a general shift was made to allow regulated TPA (RTPA) only in almost all cases<sup>64</sup>: negotiated TPA (NTPA) remained as an option only for storage facilities and linepack<sup>65</sup>.

### 2.3.1. INTRODUCTION OF EXEMPTION MECHANISMS

The possibility for member states to exempt new gas infrastructure (interconnectors, LNG and storage facilities) from third-party access, and from some other provisions of the Directive 2003/ 55/ EC was also provided<sup>66</sup>. This Article was considered as a key element for the facilitation of new infrastructure (or alternatively for significant increases in existing infrastructure enabling the development of new sources of gas supply). The rationale behind Article 22 is risk mitigation for infrastructure which will increase the level of competition between member states. Regulators are required to decide on a case by case basis on the exemption.<sup>67</sup>

The Regulation 1775/2005 also confirmed and emphasised the regulated third-party access and determined more detailed terms and conditions for this instrument. Furthermore, the Regulation specified capacity allocation mechanisms and capacity congestion mechanisms and clearly stated that unused

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Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/ 92/ EC, Official Journal, L 176, 15.7.2003; Regulation (EC) No 1228/2003 of the European Parliament and of the Council of 26 June 2003 on conditions for access to the network for cross- border exchanges in electricity, Official Journal, L 176, 15.7.2003 and Regulation (EC) No 1775/2005 of the European Parliament and of the council of 28 September 2005 on conditions for access to the natural gas transmission networks, Official Journal, L 289, 3.11.2005.

<sup>64</sup> Johnston, A., & Block, G. (2012). *EU energy law*. Oxford, United Kingdom: Oxford University Press.

<sup>65</sup> see also Article 19 and 20 of the second Gas Directive 2003/ 55/ EC.

<sup>66</sup> see also Article 22 of the second Gas Directive 2003/ 55/ EC.

<sup>67</sup> Ibid as ref 54

capacity must be offered to other parties. Nonetheless, though the Regulation filled existing regulatory gaps, its scope was complementary rather than deepening or widening<sup>68</sup>.

As for unbundling, while the first directive stipulates account unbundling for vertically integrated natural gas undertakings, the second one adds (with few exemptions) functional and legal unbundling for its distribution and transmission activities<sup>69</sup>. The unbundling idea is based on the Transmission System Operator or Distribution System Operator having efficient decision making rights which will allow them to make decisions in their own right and interests, independent from the interests of the trading branch of the integrated company.<sup>70</sup>

Under the second Gas Directive, the timetable according to which member states were required to open their energy markets to customer choice and competition was also amended to accelerate the process.<sup>71</sup> Specifically Article 23 foresees the freedom of choice of supplier for all European non-households from 1 July 2004, and for all costumers from 1 July 2007.

This Directive also included provisions addressing directly consumer protection<sup>72</sup> and security of supply<sup>73</sup> and introduced significant developments with regard to national regulatory authorities. This was partly a result of the move towards more widespread use of regulated TPA, but also reflected a concern to ensure that there were strong and independent national regulators able to ensure respect for the complex market and regulatory compromise embodied by the new legislation.<sup>74</sup> In November 2003, the Commission created the European Regulators Group for Electricity and Gas (ERGEG), to give informal co-operation between national regulators a more formal status. The purpose of this advisory

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<sup>68</sup> Ibid as ref. 51

<sup>69</sup> see also Article 9 (1) and Article 13 (1) of the second Gas Directive 2003/ 55/ EC.

<sup>70</sup> Ibid as ref. 51

<sup>71</sup> Ibid as ref. 64

<sup>72</sup> see also Article 3(3) and Annex A of the second Gas Directive 2003/ 55/ EC.

<sup>73</sup> see also Article 5 of the second Gas Directive 2003/ 55/ EC.

<sup>74</sup> Ibid as ref. 64

group is to advise and assist the Commission in consolidating the internal energy market.<sup>75</sup>

### 2.3.2. NOT A REAL CHANGE YET-NEED FOR FURTHER REFORMS

Unfortunately, the energy industry proved to be a very complex level playing field. Despite all these efforts made by the European Commission towards the liberalization of the internal energy market with the adoption of the second package, still there were many unsolved issues that had to be faced. Against a background of high gas and electricity wholesale prices, complaints about entry barriers and limited possibilities to exercise consumer choice, in 2005 the Commission decided to launch a formal investigation, so as to discover exactly the causes preventing the European internal market from reaching full liberalization (the Sector Inquiry).<sup>76</sup> The final report was published in 2007, after a 18-month investigation and unfortunately its findings were disappointing. Market concentration, vertical foreclosure, limited market integration, lack of market transparency and limited competition in the downstream markets were some of the shortcomings identified in the Sector Inquiry<sup>77</sup>. Taking into account the results from the inquiry, the EU proceeded to further reforms by adopting a third liberalization package, in order to boost the national efforts towards the creation of a well-functioning, integrated and competitive energy market.

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<sup>75</sup> Ibid as ref. 60

<sup>76</sup> Piergiovanni, M. (2009). Competition and Regulation in the Energy Sector in Europe in the Post-Sector Inquiry Era. *Competition L. Int'l*, 5(3).

<sup>77</sup> European Commission (2007). *DG Competition Report on Energy Sector Inquiry*. Brussels, Belgium: SEC(2006)1724.

## 2.4. THE THIRD GAS DIRECTIVE

In July 2009, the third energy liberalization package was adopted<sup>78</sup>, seeking to further open up the gas and electricity markets in the European Union, boost competition, enhance investments and resolve structural failings in the energy sector. The latest Gas Directive focused on the issues related to unbundling, regulatory oversight and cooperation, network cooperation, transparency and network keeping and finally access to networks (transmission and distribution system), storage facilities and LNG terminals.

### 2.4.1. MAIN PROVISIONS

The main feature of the Directive 2009/73/EC is the introduction of ownership unbundling of natural gas transmission activities from production or supply activities as the most effective and stable way to solve conflicts of interest within vertically integrated energy companies and to ensure non-discriminatory third party access to infrastructure and transparency in the markets. The Directive also provides for two alternatives to the ownership unbundling model. Member states may choose to designate an independent system operator (ISO) according to Article 14 of Directive 2009/73/EC, or an independent transmission operator (ITO) according to chapter IV of the same Directive, taking into account the objective criteria set in Article 9 part 8. Furthermore, exemptions from the requirements of

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<sup>78</sup> The third energy package consists of two Directives and three Regulations: Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, Official Journal, L 211, 14.8.2009; Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, Official Journal, L 211, 14.8.2009; Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003, Official Journal, L 211, 14.8.2009; Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005, Official Journal, L 211, 14.8.2009; Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators (ACER), Official Journal, L 211, 14.8.2009.



Article 9 can be granted for major new gas infrastructure under certain circumstances<sup>79</sup> and derogations from Article 9 may also be considered in cases of emergent and isolated markets.<sup>80</sup> The Gas Directive also provides for an unbundling regime for distribution system operators (DSOs) which are governed by the requirements of legal, functional and accounting unbundling, exactly like it was required in the preceding regime and are not subject to ownership unbundling.

Third-party access to gas transmission and distributions systems is primarily governed by chapter VII of the Gas Directive and by the Gas Regulation. The Gas Directive defines member states' general duty to opt for the model of regulated third-party access to transmission and distribution systems and LNG facilities<sup>81</sup> while for storage facilities and linepack, member states may still choose between negotiated and regulated access.<sup>82</sup> The Directive also grants the right for natural gas undertakings to refuse access to the system in certain circumstances<sup>83</sup> but each request is being examined on a case by case basis, in order to verify if the criteria set for the application of an exemption are met.

In terms of access to natural gas transmission networks, the provisions of the Gas Directive are complemented by Regulation (EC) No 715/2009 which aims to set fair rules for access conditions to natural gas transmission systems, LNG facilities and storage facilities. Moreover, the Regulation focuses on developing a well-functioning wholesale market, harmonising the network access rules for cross-border exchanges in gas<sup>84</sup> and underlining the principles of capacity allocation mechanisms and congestion management procedures.

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<sup>79</sup> see also Article 36 of the third Gas Directive 2009/73/EC.

<sup>80</sup> see also Article 49 of the third Gas Directive 2009/73/EC.

<sup>81</sup> see also Article 32 of the third Gas Directive 2009/73/EC.

<sup>82</sup> see also Article 33 of the third Gas Directive 2009/73/EC.

<sup>83</sup> see also Articles 35, 36, 48 of the third Gas Directive 2009/73/EC.

<sup>84</sup> Ibid as ref. 36

#### 2.4.2. FURTHER STEPS TOWARDS LIBERALIZATION

One of the most important features of the Directive 2009/73/EC is related with strengthening the independency and expanding the tasks of the national regulatory authorities, while providing the conditions for cooperation of the European Regulatory Institutions of the energy sector, both at regional and EU level<sup>85</sup>. The Gas Directive also provides the duty of member states' regulatory institutions to cooperate on inter-state questions and the duties to cooperate with the Agency for the Cooperation of Energy Regulators (the Agency) established by Regulation 713/2009. The purpose of the Agency is to assist the regulatory authorities at the EU level to perform their regulatory tasks in the member states and where necessary, coordinate their activities.<sup>86</sup> Furthermore, both the Directive and in more detail the Gas Regulation 715/2009 impose on member states' transmission system operators to cooperate at regional and EU level. All the aforementioned provisions regarding the regional and European cooperation of the regulatory institutions, in combination with the increasing reporting obligation imposed on them, seek to ensure respect for the new rules of the third package, while this new regime aims to gather more information to assess the impact, successes and difficulties of the latest EU legislation. With a clearer overview of the operation of markets under these rules, national regulatory authorities (NRAs), ACER and the Commission hope to develop more effective regulation compared to the previous ones adopted as time progresses, from a stronger and fuller knowledge base.<sup>87</sup>

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<sup>85</sup> see also : Chapter VIII of the third Gas Directive 2009/73/EC.

<sup>86</sup> Kanapinskas, V., & Urmonas, A. (2011). Changes of legal regulation on natural gas market in the context of the third European Union energy package. *Jurisprudencija*, 18(1), pp 233–249.

<sup>87</sup> Ibid as ref. 64

### 2.4.3. CHALLENGES-NEW PACKAGE OF MEASURES ON THE WAY

However, though the EU with the latest package adopted a fundamentally new approach in order to change the structure of the European gas market, its goal of completing the internal market has proved elusive. In February 2011 the European Council set the objective of completing the internal energy market 'by 2014 but by June 2016 the European Council called for 'Single Market strategies 'including energy and actions plans to be proposed by the Commission and to be completed by 2018. Indeed, full and timely transposition of the complex provisions of the third package had been a challenge for most member states and in fact none of the member states had achieved full transposition by the deadline of March 2011.<sup>88</sup> Therefore, since new regulatory packages are considered necessary, in order for the EU to achieve its goals, in November 2016 the Commission proposed a set of new measures with the aim to improve the current framework.<sup>89</sup>

## 3. ANALYSIS OF THIRD PARTY ACCESS (TPA) RIGHT UNDER EU ENERGY REGULATORY FRAMEWORK

### 3.1. DEFINITION AND IMPORTANCE OF TPA RIGHT

Many modifications have taken place in the energy sector the last couple of years. One of great significance was the liberalization process of the energy markets promoted by the European Union since the late 1990s. This move from a state-driven system towards a greater market-oriented policy sought to open up energy markets to foreign competitive forces, while replacing vertically integrated

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<sup>88</sup> Hancher, L., & Salerno, F. M. (2017). Analysis of Current Trends and a First Assessment of the New Package. *Draft – Forthcoming in the EE Research Handbook on EU Energy Law and Policy*, TILEC Discussion Paper. Brussels, Belgium.

<sup>89</sup> the new <<winter package>>, see also: European Commission-Press release. (2016). *Clean Energy for All Europeans – unlocking Europe's growth potential*. Retrieved from [http://europa.eu/rapid/press-release\\_IP-16-4009\\_en.htm](http://europa.eu/rapid/press-release_IP-16-4009_en.htm), accessed 1 December 2017.

companies owned by the state with private firms operating in a liberal market environment. The initial idea for the creation of these new energy market rules emerged when the European Commission realized that the monopolistic structure of the energy sector hampered the development of a well-functioning internal energy market, which guarantees efficiency, secure and reliable supplies at affordable prices and more choices and protection for the final consumers. This recognition and change in ideology about the structure of the energy business accompanied by technological improvements which promised more flexibility for the market participants, led to the introduction of what is known as the third party access right into this new regulatory regime, as a key part of such market reform.

### **3.1.1. INTRODUCTION OF COMPETITION IN NETWORK-BOUND SECTORS**

Natural gas and electricity markets are network-bound sectors, which means that they combine activities that are potentially competitive, such as generation/production and supply, with ones that are naturally monopolistic, like transmission and distribution of electricity and gas. This combination creates a lot of challenges for the introduction of competition and the maximization of the liberalization benefits and for this reason, coordination between monopolistic and competitive elements of the supply chain as well as appropriate regulation and control of any tendency towards monopolistic abuse/behaviour are considered crucial. These industries are dependent on infrastructure, so access to these facilities is essential for competition to emerge. However, these facilities are capital-intensive and the risk as well as uncertainty regarding market demand and price of the offered commodity expose the profitability of the project, while this move towards more competition through liberalization policies create concerns to the incumbent firms about losing their market share and revenues when sharing their facilities with third parties. Regarding the gas sector third party

access (TPA) is provided to the European gas transmission and distribution facilities and in the LNG sector this right will be to the regasification terminals.

### **3.1.2. RELATIONSHIP BETWEEN TPA AND UNBUNDLING**

Due to the natural monopoly character of the network systems, which are owned and operated by vertical integrated companies, there is a conflict of interest between the neutral role the operators must have towards all market participants and their privileged position, which inevitably leads to discrimination tactics between their own integrated supply affiliates and independent third parties seeking to gain access to the system. The response to this behaviour, as it has already been mentioned, is the effective unbundling of the market segments, a step which was taken by the EC towards the liberalization of the energy market, in order for competition to finally emerge. In other words, unbundling is a concept fundamentally related to open access to infrastructure, since only in this way the strong relation between the network operator and affiliated companies ceases to exist or becomes weaker and incentives to refuse access are reduced. Without such right energy producers and suppliers cannot reach the final customers and cannot trade and by extension an open internal energy market where customers have the right to choose their suppliers freely, cannot be achieved. The elimination of such barriers of entrance is an essential prerequisite for the introduction of competition, since new players will enter the business, contributing to diversification and security of supply and ensuring sustainability and effective functioning of the energy markets.

### 3.1.3. DEFINITION OF TPA

In practice, TPA is defined as the idea that under certain circumstances, economically independent undertakings operating in the energy sector have the legally enforceable right to access and use various energy network facilities owned by other companies.<sup>90</sup> This right is established by the First, Second and Third liberalization package and it is considered to be a fundamental liberalization policy tool and an indispensable component of competitive markets. However, there is no clear definition of what TPA really is and though article 32 of the Third Electricity and Gas Directive states that member states should ensure the implementation of a system of third party access, no further guidance is given towards this direction. The only way to secure this right is through the designation of an independent regulatory authority who regulates the implementation of such system and is entrusted with all the regulatory duties and powers provided for in the Electricity and Gas Directives.

### 3.1.4. IMPLEMENTATION OF THIS PRINCIPLE

In principle, third party access can be implemented in two ways. Under the first model, the access granted is based on a system in which tariffs are published in advance and it is applicable to all eligible customers. Additionally, access terms and conditions are approved by the energy market regulator and are applied objectively and without discrimination between system users.<sup>91</sup> The system described above is called regulated third party access. Under the second system, the terms and conditions of access are negotiated between the system operator and each supply undertaking or eligible customer, in order to conclude supply contracts, based on voluntary commercial agreements. In negotiated third party access there is no requirement for tariffs to be published in advance. However,

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<sup>90</sup> Kotlowski, A. (2007). Third-Party Access Rights in the Energy Sector: A Competition Law Perspective. *Utilities Law Review*, 16(3), pp 101-109.

<sup>91</sup> Chapter VII ('Organisation of Access to the System') and especially Article 32 of the third Gas Directive 2009/73/EC.

for the promotion of transparency and the facilitation of negotiations under the second regime the publication of an indicative range of prices for standard services by the system operator is necessary.

However, it should be noted that the TPA right under the current regulatory framework is not an autonomous right, but is related to an underlying energy supply contract expressed by the concept of <<eligibility>>.<sup>92</sup> More specifically, Art 20 and Art 18 of the third Electricity and Gas Directive respectively clearly stipulate that the TPA right is applicable exclusively to supply contracts with eligible customers, which means that system users are able to demand access, but only if they have to execute a supply contract with an eligible customer. In other words, energy traders can reserve network capacity in the incumbent's infrastructure for the purpose of performing an actual contract, but they cannot rely on the internal energy market Directives, if they want to reserve pure capacity for resale or future use. Instead, they can use competition law tools to support such claims or resort to commercial negotiations with the system operator.<sup>93</sup> Nevertheless, national legislators can impose further requirements for the opening of the market to competition, by allowing supply undertakings to demand a right to pure capacity, in order to sell it to other energy undertakings. This case would create a secondary market in capacity trading and would enable the creation of more competition and liquidity in the energy markets.

### 3.2. LNG ACCESS REGULATION IN THE EU

The implementation of TPA to LNG regasification terminals in the EU has taken place within the framework of the liberalization of gas markets. Before the adoption of the first energy package, third party access to LNG terminals owned

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<sup>92</sup> Ibid as ref. 90

<sup>93</sup> Kotlowski, A. (2010). Access Rights to European Energy Networks – a Construction Site Revisited. In Delvaux, B., Hunt, M., & Talus, K. *EU energy law and policy issues (ELRF collection)* (2nd ed.). Brussels, Belgium: Euroconfidentiel.

and operated by vertical integrated undertakings was almost impossible. With the introduction of the first Gas Directive Member states were obliged to opt for regulated or negotiated third party access to LNG terminals. Nevertheless, due to the fact that countries like Spain which adopted the first option, achieved better results in terms of access conditions and development of competition, contrary to others which opted for negotiated TPA, EU decided to exclude the second option and impose only regulated access to LNG receiving terminals under the second Gas Directive. At this point, it should be mentioned that, although regulated TPA is more effective in terms of creating new market entry possibilities, more transparent and entails less transaction costs when arranging access, negotiated TPA offers more certainty and predictability in the rate of return on capital spent for the construction of new terminals. Therefore, the second Gas Directive introduced a TPA exemption regime applicable to new terminals or to expansions of existing ones, in order to create investment incentives and promote competition in the long-term.

The third Gas Directive followed the same approach as the second one and maintained regulated access as a default regime for LNG terminals, introducing, however, further requirements on Capacity Allocation Mechanisms (CAM) and Congestion Management Procedures (CMP). Regulation 715/2009 also defined certain aspects related to how LNG terminal operators should offer third party access services.<sup>94</sup> The possibility of granting exemptions under certain conditions was also maintained the same, which resulted in the coexistence of two regimes, regulated TPA and exemptions to it, sometimes applied to the same country or even to the same terminal (Italy).

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<sup>94</sup> United Nations Economic Commission for Europe. (2013). *Study on current status and perspectives for LNG in the UNECE Region*. Geneva, Switzerland: United Nations.



### 3.2.1. MAIN PROVISIONS AFFECTING LNG OPERATIONS

In the Directive 2009/73/EC the main articles affecting LNG operations are Art 8, 12, 13, 29, 31, 32 and 36. In more detail, Art 8 establishes the technical rules that shall be implemented for the connection to the system of LNG facilities and recognizes the role of the Agency (ACER), which may make recommendations towards achieving compatibility of technical rules, where appropriate. Furthermore, Art 12 provides for the designation of storage and LNG system operators whose tasks are established in Art 13, while Art 29 states that unbundling provisions on distribution system operators (Art 26) shall not prevent the operation of a combined transmission, LNG, storage and distribution system operator, provided that the operator complies with certain independency requirements. Combined operators are quite common in the EU, such as Enagás in Spain, Gasunie in The Netherlands, Fluxys in Belgium, National Grid in Great Britain, REN in Portugal, Snam in Italy, DESFA in Greece, TIGF in France and Energinet.dk in Denmark.

However, the most important articles affecting LNG operations are Art 31, 32 and 36. Though the Gas Directive does not impose ownership unbundling on LNG operators, but only a lenient account unbundling according to Art 31, the majority of them are subject to ownership unbundling provisions. This ensures independency of LNG operators in Europe through measures that are not directly imposed on them, but it is a by-product of applying ownership unbundling rules to TSOs that own LNG terminals.

Art 32 maintains regulated TPA as a default regime to LNG terminals in Europe, which is based on published tariffs, applicable to all eligible customers. These tariffs have to be objective, non-discriminatory and transparent, so as to facilitate the entrance of new players in the market. They also have to reflect the actual costs incurred, ensuring in this way an appropriate return on investment and by extension the viability of the project. National regulatory authorities shall fix and approve the tariffs and methodologies underlying their calculation in advance of

their entry into force and their decisions have to be autonomous and directly binding. Member states under the third energy package may intervene regarding tariffs only through general policy guidelines, as it is stated in the European Commission's Interpretative Note on regulatory authorities.<sup>95</sup>

### 3.2.2. THE EU TPA EXEMPTION PROCEDURE

Finally, despite the fact that the European Legislation offers the right of access to third parties, in order to enable a well-functioning internal energy market, it also grants the right for an exemption of this right, according to Art 36 of the Gas Directive (Art 22). The article maintains the five exemption criteria contained in the second Gas Directive and stipulates that exemptions can only be granted by regulatory authorities, and not by member states, as allowed under the second Directive. The exemption decision shall be further notified by the competent authority to the Commission, together with all the relevant information with respect to the decision. The Commission may request that the regulatory authority or the member state concerned amend or withdraw the decision to grant an exemption.

The role of this article is crucial because although the main purpose of third party access is to facilitate the entrance of new players in the market, there are and other important considerations to take into account, such as security of supply and the need for more investments in energy infrastructure. Because an open access regime may discourage investments and endanger security of supply, the European Legislator has introduced the TPA exemption mechanism to balance investment-competition trade-off.

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<sup>95</sup> European Commission. (2010). *COMMISSION STAFF WORKING PAPER. INTERPRETATIVE NOTE ON DIRECTIVE 2009/72/EC CONCERNING COMMON RULES FOR THE INTERNAL MARKET IN ELECTRICITY AND DIRECTIVE 2009/73/EC CONCERNING COMMON RULES FOR THE INTERNAL MARKET IN NATURAL GAS: THE REGULATORY AUTHORITIES*. Brussels, Belgium. Retrieved from [https://ec.europa.eu/energy/sites/ener/files/documents/2010\\_01\\_21\\_the\\_regulatory\\_authorities.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/2010_01_21_the_regulatory_authorities.pdf)

Specifically, Art 36 provides a potential exemption from the TPA requirement for new gas infrastructure projects or for significant increases of capacity in existing infrastructure for a defined period of time and is granted under the following conditions:

- a) the investment must enhance competition in gas supply and enhance security of supply;*
- b) the level of risk attached to the investment is such that the investment would not take place unless an exemption was granted;*
- c) the infrastructure must be owned by a natural or legal person which is separate at least in terms of its legal form from the system operators in whose systems that infrastructure will be built;*
- d) charges are levied on users of that infrastructure;*
- e) the exemption is not detrimental to competition or the effective functioning of the internal gas market, or the efficient functioning of the regulated system to which the infrastructure is connected.*

Guidance for assessing these conditions is laid down in the Commission's "interpretation note"<sup>96</sup>. This note stresses that "exemptions will (...) only be granted exceptionally and on a case-by-case basis", so it is suggested that the exemption may only be approved after a meticulous examination by the competent authority<sup>97</sup>.

Lastly, a new element of the procedure is the emphasis made on Capacity Allocation Mechanisms (CAM) and Congestion Management Procedures (CMP)

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<sup>96</sup> *Interpretation note of DG Energy & Transport on Directives 2003/54-55 and Regulation 1228/03 in the electricity and gas internal market, "Exemptions from certain provisions of the third party access regime"*. (2004). Retrieved from [http://www.rae.gr/old/europe/sub4/exemptions\\_tpa\\_DGTREN.pdf](http://www.rae.gr/old/europe/sub4/exemptions_tpa_DGTREN.pdf)

<sup>97</sup> The Commission's Report on Energy Sector Inquiry (SEC(2006)1724) reiterates how the assessment ought to be performed: "it is important [...] that the regulatory regime strike a balance between providing the right incentives to build new capacity and ensuring that any long-term contracts do not have detrimental effects on competition".

under the Gas Directive 2009/73/EC. Before granting an exemption the relevant national regulatory authority shall decide upon the rules and mechanisms for management and allocation of capacity. These rules apply equally to exempted and non-exempted facilities. The details of this requirement are largely left for the more detailed Regulation 715/2009.

### **3.3. ACCESS-EXEMPTION REGIME: FINDING THE RIGHT BALANCE BETWEEN COMPETITION AND INVESTMENTS**

#### **3.3.1. ARGUMENTS SUPPORTING TPA**

The liberalization of the gas market is becoming a substantial part of the downstream business, so discussions about whether liberalized markets can provide for the security of supply are emerging. The main concern is that whether TPA finally promotes or discourages competition and ultimately, benefits or undermines security of supply objectives. On the one hand, TPA promotes competition in an open market because the owner of the infrastructure is required to make capacity available to third party users, leading in theory to more widespread infrastructure usage and greater diversification of gas supply for downstream customers. Regarding LNG, third parties that import LNG through an existing terminal now may have access to more supplies on the spot market at cheaper prices, threatening in this way the incumbent's market share and revenues and at the same time eroding the traditional pricing system based on oil-indexation.

### 3.3.2. ARGUMENTS AGAINST

On the other hand, there have been arguments saying that an open access regime discourages further investments and as a consequence harms security of supply. For example each component of the gas infrastructure is capital-intensive and therefore quite prohibitive without securing an acceptable return of the capital. In a liberalized market both the demand and price are uncertain and constant legislative changes which create legal uncertainty to the investors about the future regulation and the impact of these changes to future, undermine further investment stability in the long-run. Traditionally, this needed security is provided by long-term commitments which mitigate the level of risk involved in such investments. In this way, the owners of the infrastructure are protected from the opportunistic behaviour of third-party users, who either benefit from using the facility which is provided for them against payment of a regulated price or when the investment is not successful, they do not seek access and pay nothing for not using the facility. The investor in the latter case bears the risk solely<sup>98</sup>.

Generally, the EU does not consider long-term contracts to be anti-competitive by nature, but they are monitored by the Commission under competition law on a case-by-case basis, taking into account duration issues, maturity of the market, investment incentives etc. Clearly, TPA services and short-term contracts are necessary for competition and development of the markets. However, it is equally obvious that long-term contracts are also needed to support investments and security of supply that the spot market alone is unlikely to achieve, given the long-term nature of the natural gas business.<sup>99</sup>

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<sup>98</sup> Vahedi, S. (2009). Does Third Party Access Have a Negative Effect on the Investment in Gas Infrastructures?.

<sup>99</sup> Ibid as ref. 98

### 3.3.3. ISSUE OF INVESTMENT INCENTIVES-COMPETITION TRADE OFF

Furthermore, as demand for energy increases both investments and upgrades in infrastructure are essential to satisfy this demand. However, as it is already mentioned the interests between creating competition and incentivizing investments may not always be aligned. Therefore, the European regulatory framework with the use of TPA exemption provisions tried to create a balance between luring investments and ensuring unimpaired competition.<sup>100</sup> Since one of the main EU objectives is the creation of dynamic competition neither investment incentives nor market liquidity shall be compromised at the expense of the other.<sup>101</sup> Competitive markets promise efficiency and liquidity and are necessary to maximize consumer welfare. For this reason, exemptions should be exceptional and limited to those investments whose realization is impossible under the regulated TPA regime.<sup>102</sup>

According to ERGEG guidelines<sup>103</sup>, TPA should be regarded as a default regime and exemptions shall only be granted when the investment is able to create new market entry possibilities. The report also follows a tough line on exemption requests by dominant market players and supports that this player must prove that his market position will be diluted as a result of this exemption and show how the investment will enhance the position of smaller market players. The same strict approach was maintained by the Commission in its draft staff working document in November 2008<sup>104</sup>, which mentions that exemptions have to clearly

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<sup>100</sup> Van der Vijver, T. (2012). Third Party Access Exemption Policy in the EU Gas and Electricity Sectors: Finding the Right Balance between Competition and Investments. In M. ROGGENKAMP, L. BARRERA-HERNÁNDEZ, D. ZILLMAN & I. DEL GUAYO, *Energy Networks and the Law: Innovative Solutions in Changing Markets* (1st ed.). Oxford, United Kingdom: Oxford University Press.

<sup>101</sup> TOKGÖZ, E. (2014). *Third Party Access Regime and Building Competitive Gas Markets*. Institute for Energy Markets and Policies (EPPEN).

<sup>102</sup> Ibid as ref. 101

<sup>103</sup> ERGEG. (2008). *Draft Guidelines on Article 22 - An ERGEG Public Consultation Paper*. Retrieved from <https://www.ceer.eu/documents/104400/-/-/40f19c7a-cb28-e9e2-968b-fe829f13caef>

<sup>104</sup> European Commission. (2009). *Commission staff working document on Article 22 of Directive 2003/55/EC concerning common rules for the internal market in natural gas and Article 7 of Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity: New Infrastructure Exemptions*. Brussels, Belgium: SEC(2009) 642 final. Retrieved from [https://ec.europa.eu/energy/sites/ener/files/documents/sec\\_2009-642.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/sec_2009-642.pdf)

meet the necessity and proportionality requirement. The Commission also stresses the need for promoters of such projects to perform a market test, in order to measure demand before obtaining an exemption and takes a stronger position on full and partial exemptions.<sup>105</sup> However, although exemptions should in no way be granted light-heartedly in dominant firms, these undertakings usually have the means to finance such projects<sup>106</sup>

Generally, NRAs have followed a more lenient stance when approving exemptions. Regarding LNG terminals, today there are 3 exempted terminals in Great Britain, 1 in France, 1 in Netherlands and 1 in Italy (exemption for the FSRU OLT Offshore LNG Toscana was revoked). Admittedly, the projects are similar in a number of respects. All the facilities will enlarge total capacity in the market and ultimately improve security of supply and benefit the gas sector as a whole. Additionally, and the 4 NRAs accepted that the projects will strengthen competition at least in the long-run and improve the diversification of energy supply. However, it is intriguing that British, Dutch and French authorities applied the exemptions to the whole capacity of the terminals, whereas in Italy exemptions were granted in relation to 80% of the total capacity and the remaining 20% still remained subject to regulated TPA regime. This move seems to reflect the understanding that, even though new projects are of great importance, exemption requests should only be approved if and insofar as they are necessary.<sup>107</sup>

Ultimately, legislation needs to find the right balance between competition and infrastructure investments or in other words between open access regime and exemptions. Since the EU has adopted a long-term orientation in the development of its gas market, all markets parameters should be taken into account when trying to achieve its goals. Unfortunately, unclear regulation, complicated commercial arrangements and structural and behavioural drawbacks

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<sup>105</sup> Van der Vijver, T. (2009). Exemptions to third party access for new infrastructures in the European Community gas sector - an update. *International Energy Law Review*.

<sup>106</sup> Ibid as ref. 105

<sup>107</sup> Ibid as ref. 105

in the gas market discourage real competition to emerge. Hence, necessary institutional framework should be established from the beginning in order to create a stable investment environment and certainty for new players seeking to enter the business. Liberalization does not need to impede new investments. On the contrary, with the proper regulation, guidance and structural reform the opposite could happen.

### 3.4. ESSENTIAL FACILITIES DOCTRINE AND GAS MARKETS

#### 3.4.1. DEFINITION

Efficient and transparent access to energy facilities is an essential precondition for any competition to emerge. This access can be required either through sector-specific regulation, as it is already discussed or on the basis of EU competition law and in particular on the doctrine of essential facilities under Art 102 TFEU. In general, essential facilities are facilities or infrastructure which are essential for reaching customers and/or enabling competitors to carry on their business, and which cannot be replicated by any reasonable means.<sup>108</sup> In the gas sector this legal doctrine can be applied to natural gas pipelines and LNG regasification terminals.

#### 3.4.2. IMPLEMENTATION OF THE RIGHT

Within the EU, the evaluation and exercise of this right is based on 3 specific conditions developed by the ECJ in the landmark Bronner case.<sup>109</sup> Firstly, the infrastructure must be controlled by a dominant player and its refusal of access to its facility could remove competition from the market. Then, the access must be

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<sup>108</sup> Commission's Notice on the Application of the Competition Rules to Access Agreements in the Telecommunications Sector, C 265/2 22.08.1998, para. 58.

<sup>109</sup> Case C-7/97, *Oscar Bronner v Mediaprint Re Austrian newspaper distribution*, [1998] ECR I-7791.



essential for the party requesting it-there is no alternative or substitute and the new user is economically unable to construct a similar facility to satisfy his needs. Lastly, the access must be denied without any objective reason. For example if access is technically or economically impossible and the undertaking refuses to grant it for this reason, the refusal would not be viewed as anticompetitive. In the EU the doctrine has been applied widely and especially after the Energy Sector Inquiry the application of Art 102 TFEU has been very strong in order for the EU to dilute natural monopolies and liberalize gas markets.

Competition law and particularly Art 102 TFEU and essential facilities doctrine have emerged as essential tools for the European Commission in its attempt to improve market conditions. As the sector-specific gas regulation has so far been unable to create a competitive market structure, the Commission is trying to use and other means such as competition law tools to achieve the same results. Competition enforcement and sector-specific regulation are actually complementary instruments and they can work together, so as to establish a truly-liberalized energy market and create capacity to compete.

## **4. LNG IN EUROPE: AN OVERVIEW OF THE ACCESS REGIME APPLIED TO LNG REGASIFICATION TERMINALS**

### **4.1. EU STRATEGY FOR LIQUEFIED NATURAL GAS**

Europe is one of the main gas consumer regions in the world and currently natural gas represents around a quarter of the EU's total primary energy consumption. As the EU commitments to create a sustainable and carbon-free energy future drive the European energy policy, gas will continue to play a vital role for its member states the next decades. Consequently, ensuring competitive gas prices for both EU companies and citizens is crucial, in order to keep

competitive advantages, since competition from rapidly growing economies around the globe becomes stronger. Unfortunately, the EU imports almost all its gas supplies, so its strong dependency on non-EU countries, especially Russia and Norway creates concerns regarding security of supply. With natural gas production in many European countries declining too, diversification of external supplies and the need for new investments in the gas infrastructure for the creation of a fully-integrated European gas market have become top priorities for the EU to accomplish.

#### **4.1.1. GROWING IMPORTANCE OF LNG FOR THE EU**

To solve these issues, the Union has started looking at LNG as a means for diversification and as an essential part of its future energy mix. EU wants to explore the full potential of LNG and take advantage of the current 'gas glut' and the availability of cheap LNG. These current market dynamics in combination with changes in the global LNG business (already analysed in the first chapter) indicate that LNG will play a key role in ensuring a reliable and competitive gas system in Europe. Moreover, the emergence of short-term spot markets will increase market liquidity and competition for spot LNG cargoes, while upgrading the role receiving terminals have in the LNG value chain. This increasing international competition over LNG cargoes has forced Europe to consider ways, in order to stand as a valuable outlet for LNG market participants seeking to capitalize on competitive regasification terminals and gain access to liquid wholesale gas markets. Currently, the LNG price differentials between Asia and Europe have pushed short-term and spot cargoes away from European countries to Asian markets, creating security of supply issues in the EU. This means that Europe has to compete with these countries for LNG supplies and granting favourable access conditions to LNG terminals constitutes an essential part of the energy game. With market liberalization in the EU, terminals were considered to be strategic elements of the downstream market and became subject to TPA requirements

supported by two functioning trading hubs- the British NBP (National Balancing Point) and the Dutch TTF (Title Transfer Facility).

#### 4.1.2. CLOSER LOOK AT THE EUROPEAN LNG IMPORT TERMINALS

In Europe, there are 22 LNG facilities (onshore or FSRU) in ten different countries<sup>110</sup> with total regasification capacity reaching 204 bcm/year in 2017<sup>111</sup> which is clearly sufficient, taking into account annual gas consumption of 400-500 bcm/year in recent years.<sup>112</sup> However, though the existing capacity is adequate with further additions planned<sup>113</sup>, the current import terminals are not evenly distributed across the EU and have low utilization rates due to higher Asian LNG prices and competition from pipeline gas. Specifically, the average usage of regasification terminals in Europe has decreased since 2010, from 53% to 25% in 2013, and in 2014 just 19% of the total send out capacity was used.<sup>114</sup> The busiest terminals in 2016 were those in France, Italy and Lithuania with annual throughput utilization rates above 30%.<sup>115</sup>

Nevertheless, this low utilization rate and generally the fact that global regasification capacity exceeds global liquefaction capacity does not necessarily pose a problem. On the contrary, it provides flexibility and optionality to LNG market participants seeking to access different regions, so as to leverage short-term market dynamics and arbitrage opportunities. It is obvious that the role of terminals has changed in order to adapt to the current competitive market

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<sup>110</sup> Italy, France, Greece, Belgium, Spain, Portugal, United Kingdom, Netherlands, Lithuania and Poland.

<sup>111</sup> TEAM CONSULT G.P.E. (Gas.Power.Experience.). (2017). *A glimpse at the landscape of European LNG regasification infrastructure (Final Version)*. Berlin, Germany.

<sup>112</sup> European Commission. (2016). *Commission staff working document accompanying the document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on an EU strategy for liquefied natural gas and gas storage*. Brussels, Belgium: SWD(2016) 23 final. Retrieved from <http://eur-lex.europa.eu/legal-content/IT/TXT/?uri=CELEX:52016SC0023>

<sup>113</sup> Planned projects could result in an additional 146 bcm/year. Ibid as ref. 112

<sup>114</sup> Ibid as ref. 112

<sup>115</sup> Ibid as ref. 112

environment. This is the reason why at present, terminal operators started to provide new services such as ship reloading, transshipment, bunkering etc next to their core business, making the terminals more flexible and customer oriented.<sup>116</sup>

At this point, it should be mentioned that, since the present European LNG regasification capacity is more than adequate to satisfy the current demand, there is no reason for the EU to invest in constructing more terminals or expanding the capacity of the old ones. Instead, the Union should focus on improving the access conditions of the existing terminals which are currently under-utilized. However, it should be kept in mind that the available capacity is not optimally distributed across the EU and many member states, especially in South Eastern European regions still lack LNG regasification terminals. This in combination with the expected increase of gas demand and the global trend towards shorter-term contracts or even spot contracts make investments in gas infrastructure necessary, in order to provide market players with sufficient guarantees of access to LNG markets. National markets have to be well-interconnected and EU has to ensure that the appropriate infrastructure is in place for each member state. The Union shall consider all these factors when deciding how to achieve a fully-integrated internal gas market where gas flows without any disruption among EU member states.

#### **4.2. ACCESS TO EU REGASIFICATION CAPACITY - REGULATED VERSUS EXEMPTED TERMINALS**

In Europe, access to LNG terminals is granted via two regimes that co-exist in the same country or even at the same terminal. They can be subject to either regulated third party access or can be exempted from TPA requirement. Currently, 16 of the 22 existing LNG terminals are regulated, 5 are exempted<sup>117</sup>

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<sup>116</sup> Ibid as ref. 111

<sup>117</sup> 3 in the United Kingdom (Grain LNG, Dragon LNG and South Hook LNG), 1 in France (Dunkerque), and 1 in the Netherlands (Gate).

and 1 has hybrid TPA arrangements.<sup>118</sup> While regulated terminals provide access to third parties based on fair, transparent and non-discriminatory conditions, at exempted terminals access is negotiated directly between the owner of the terminal and the shippers/customers and tariffs resulting from these commercial negotiations do not have to be published. In the latter case, third parties are able to get access to such terminals only via secondary markets, since capacity at exempted terminals is normally sold under a long-term contractual basis.<sup>119</sup>

Requests for exemptions are approved by regulatory authorities, in order to encourage investments and are only granted for a limited period of time (20-25 years). Moreover, terminals that are subject to regulated TPA regime cannot be exempted afterwards but the opposite can happen. For example FSRU OLT Offshore LNG Toscana in Italy which requested and was granted an exemption from regulated TPA, in 2012 asked to revoke it due to low utilization.<sup>120</sup> In 2017, the terminals exempted from regulated TPA regime covered 53 mtpa or 36% of regasification capacity, which means that a large part of regasification capacity in the EU is contracted on a long-term basis.

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<sup>118</sup> Adriatic LNG in Italy (Porto Levante LNG terminal) is the only terminal subject to hybrid TPA arrangements with 20% of the overall capacity under regulated TPA and the other 80% exempted from TPA.

<sup>119</sup> Ibid as ref. 111

<sup>120</sup> Ibid as ref. 111

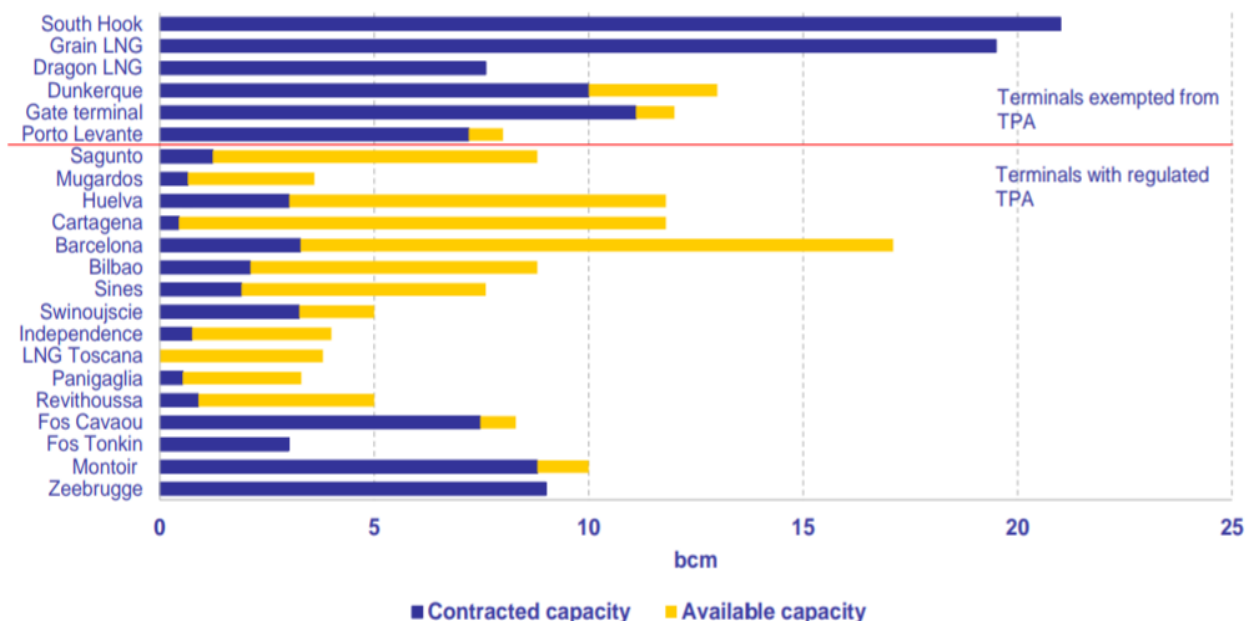


FIGURE 4: CONTRACTED VS. AVAILABLE CAPACITY 2017<sup>121</sup>

#### 4.3. PRACTICAL CONSIDERATIONS FOR THE IMPLEMENTATION OF TPA TO TERMINALS

Article 17 of the Regulation (EC) No 715/2009 determines the principles of capacity-allocation mechanisms and congestion-management procedures concerning storage and LNG facilities and obliges terminal users not to hoard capacities they do not use. In more detail, capacity at the European terminals can be obtained via primary or secondary markets and LNG contracts shall include measures to prevent capacity-hoarding, especially in cases of contractual congestion. The terms and conditions applied to terminals are different depending on the specialities each terminal has, the market structure that operates and of course its regulatory regime (if it is regulated or exempted from TPA).

<sup>121</sup> Ibid as ref. 111

#### 4.3.1. PRIMARY CAPACITY

The EU legislation does not stipulate a specific process for allocating regasification capacity to potential users. It only requires operators to make the maximum capacity available to market participants and choose mechanisms that are transparent and non discriminatory. The UK regulator (Ofgem), considered auctions to be the most effective and transparent means of allocating capacity, since it can meet all the regulatory requirements stipulated by the third energy package.<sup>122</sup> Another capacity allocation mechanism is an open season procedure often applied to exempted terminals. Moreover, free annual and monthly capacities might be booked according to the 'first come - first serve' principle.<sup>123</sup>

#### 4.3.2. SECONDARY MARKETS - ANTI-HOARDING MEASURES

If the primary capacity holder does not need the contacted capacity, then this capacity has to be made available to third parties on the secondary market, either by direct agreement or by holding auctions. However, terminal owners or primary capacity users may prefer not to release their spare capacity to make a profit but to hold it, in order to protect their market share through blocking the entry of new players. For this reason, the imposition of anti-hoarding measures such as the UIOLI mechanism (use it or lose it) that ensure the efficient utilization of the infrastructure are considered crucial and quite useful, especially for facilities with multiple users. Such measures may penalise a user who hoards capacity or oblige such a user to offer capacity back to the market.<sup>124</sup> An anti-hoarding mechanism can be implemented in parallel with a regulated TPA regime or as a stand-alone measure. Most of the exempted terminals in the EU, except for South Hook

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<sup>122</sup> For more information see also: Ofgem. (2012). *Guidance on the regulated Third Party Access regime for Liquefied Natural Gas facilities in Great Britain*. London, Great Britain (GB): Ofgem publication. Retrieved from <https://www.ofgem.gov.uk/ofgem-publications/40393/guidance-regulated-third-party-access-regime-liquefied-natural-gas-facilities-gb-pdf>

<sup>123</sup> This is the case at the Dutch Gate LNG terminal.

<sup>124</sup> Nelson, R., & Whitaker, K. (2017). Gas market reform: the advent of third party access in Asia. *International Energy Law Review*.

terminal in the United Kingdom were granted an exemption from TPA requirements, on the condition that they implemented UIOLI measures.<sup>125</sup> At exempted terminals almost all their capacity is contracted on a long-term basis, so available capacity is almost non-existent (Figure 4). This fact may lead to market foreclosure, if complementary measures are not taken. By adding additional conditions to exempted terminals, the regulatory authorities tried to create a more competitive market environment, where new players are able to gain access to unused capacity, utilization of the infrastructure is efficient and primary capacity holders are incentivised to use their capacity to the fullest extent possible.

#### 4.3.3. TRANSPARENCY

Transparency is an essential requirement for a well-functioning TPA regime. In order for players to exploit the current LNG market developments, detailed information in relation to tariffs, available capacity and commercial and operational services is necessary.<sup>126</sup> Although transparency is not lacking at regulated terminals most of the time, access rules and tariffs for exempted terminals are often not published<sup>127</sup>. LNG and storage system operators are required to make public only the amount of gas in each storage or LNG facility and the available storage and LNG facility capacities<sup>128</sup> since this information is crucial for market participants in order to assess whether they wish to bid for capacity.<sup>129</sup> However, the available capacity often becomes public by the terminal operator at relatively short notice for example one or two weeks in advance. This short period

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<sup>125</sup> Ofgem in its final views in the Grain case simply mentioned in a general way that the UIOLI principle would have to be respected. However, the Commission during its Energy Sector Inquiry observed that a significant share of the berthing slots in the Grain LNG terminal were not used by the two shippers, so Ofgem requested the operator and the user to make changes to the framework concerning secondary capacity trading and the parties finally applied a stricter UIOLI regime.

<sup>126</sup> see also Article 19 of the Regulation (EC) No 715/2009 which intends to promote transparency among LNG facilities.

<sup>127</sup> Transparent tariffs can increase the effectiveness of the UIOLI regime.

<sup>128</sup> see also Article 19 (4) of the Regulation (EC) No 715/2009

<sup>129</sup> Ibid as ref. 124



makes it unattractive and even impossible for a shipper to make logistic arrangements and bring cargoes to terminals<sup>130</sup> and of course leverage short-term commercial opportunities.

TPA to regasification terminals is an essential part of the wider reform taken place in the gas markets in the EU. Generally, TPA increases competition and contributes to market liberalization. However, practical measures taken to implement TPA and the powers current regulators have, in order to enforce it while monitoring the market, are of crucial importance too. A well-established TPA regime can be the driving force behind the development of the European LNG market and a valuable asset for market participants seeking to exploit the new market dynamics.

## 5. CONCLUSIONS

Market environment surrounding LNG has experienced drastic changes which are pushing towards more flexibility and liquidity. Key factors for this reconfiguration of the LNG business is the looming oversupply, the growing number of players seeking to play a bigger role in the global LNG trade and the emergence of spot markets and trading hubs for LNG. Moreover, rigid long-term contracts which have long dominated the LNG trade have started to decrease, since they can no longer reflect the current competitive LNG market structure. Buyers are no longer willing to accept inflexible terms in their contracts and LNG liquefaction operators as well as suppliers who are in need of finding sales markets for their surplus LNG volumes, are looking for ways to exploit the new market dynamics and short-term trading opportunities. LNG trade is shifting to a buyers' market, where importers are shaping the future of the deals with exporters. However, this restructuring of the LNG trade will remain incomplete, if

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<sup>130</sup> Ibid as ref. 111

access to the last part of the LNG value chain - regasification terminals is hampered.

Under these new circumstances, Europe wants to stand as a valuable outlet for global LNG players who are looking for ways to get access to liquid wholesale gas markets. The EU's prosperity, security and resilience is ultimately based upon stable and abundant supply of energy. As Europe's domestic production is declining and its dependence on gas imports is increasing, energy security issues arise, so diversification of supply sources and routes has become a key objective for the EU to accomplish. All these factors in combination with the policy adopted by the EU to stimulate liberalization, in order to create a competitive internal gas markets, are likely to create new opportunities for LNG in Europe.

Until now, Europe has introduced three consecutive energy packages designed to establish a well-functioning gas market and create a stable regulatory environment which can ultimately ensure efficiency, energy security, low prices and stimulate investments. The third Gas Directive 2009/73/EC introduced further measures requiring member states to provide open access to gas infrastructure, specifically pipelines and LNG terminals on fair, transparent and non-discriminatory terms.

LNG import terminals under the current EU legislation are considered as essential infrastructure and part of the downstream market just like pipelines. Therefore, regulated TPA has been implemented to those facilities. Third party access is the cornerstone for successful liberalization and an important means of access to gas markets. Nevertheless, TPA may discourage incentives for new investments, since energy industry is capital-intensive and certainty regarding demand and price secured by long-term commitments is essential from the investors' perspective. Consequently, an exemption mechanism was introduced to foster investments in new infrastructure and balance investment-competition trade-off.

Currently, 16 of the 22 terminals in EU are subject to regulated TPA provisions, 5 are fully exempted and 1 was granted partial exemption. Their regasification capacity is also sufficient to satisfy the current needs but are not fully used. Capacity can be obtained via primary and secondary markets and anti-hoarding mechanisms shall be included in contracts, in order to ensure efficient utilization of the infrastructure and prevent bottlenecking and congestion. At exempted terminals capacity is sold under long-term arrangements, so effective secondary markets is a requisite, so as to allow other third parties to access the terminals. Moreover, though transparency is not an issue for regulated terminals, since they have to ensure a level playing field for third party users, exempted terminals are subject to low transparency requirements. EU Regulation requires exempted terminals only to publish information in relation to available capacity but sometimes these data are published on short notice making it hard for potential users to organize their portfolio.

Exemptions are generally beneficial to incentivise investments, but the asymmetric situation of regulated and exempted terminals in the EU in relation to access services, tariffs, transparency requirements, available and contracted capacity etc, may put some terminals in a more advantageous position than others. Therefore, the EU has to find the right balance between access and exemptions as well as balance between short-term and long term ambitions. This could be achieved through optimal and thorough energy regulation, utilization of competition policy that will provide trust and certainty for all market players in the gas supply chain, more effective monitoring and enforcement mechanisms and by creating more functioning secondary markets which will enable more players to enter the wholesale business. Regarding the exemption procedure the evaluation should be done in a more coordinated and coherent way and more guidance should be provided by the competent authorities, since the provisions and the criteria are not always clear and many times are susceptible to various interpretations.

Summing up, the EU's current energy policy aims to make Europe a viable and commercial market for global LNG. Europe is well-positioned to absorb additional volumes of LNG, since it has available infrastructure, surplus capacity to offer to third parties and a number of liquid trading hubs for gas. If LNG prices remain competitive, Europe can also take on the role as the LNG market of last resort. Facilitating access conditions to LNG terminals is an important prerequisite for this to happen. This could be achieved by imposing total TPA, partial TPA, by creating functioning secondary markets or by providing access to under-utilized capacity via effective regulation.

However, a variety of regulatory, structural, operational and behavioural drawbacks as well as complex infrastructural and commercial arrangements impede the development of a liquid and competitive wholesale gas market. Only if these present barriers are overcome, Europe will be likely to achieve a fully liberalized gas market and hence become an important player in the global energy balance of powers.

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